

extension to Deposit Account No. 50-0208.

In response to the Office Action having a mailing date of October 3, 2002, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

1. (amended) A speech recognition system comprising computer memory storing:

a first set of speaker-independent word models used to match a word in an utterance of a user

with a word model in said first set, wherein said first set of word models includes models for each

of a plurality of words;

a second set of speaker dependent word models derived from speech of a particular user and

used to match a word in an utterance of said particular user, wherein said second set of word models

includes models for at least some of said plurality of words; and

a program portion used to identify words in utterances of said particular user by attempting

to match portions of an audio signal with:

word models among said first set; and

word models among said second set.

2. (amended) A method of operating a speech recognition system comprising:
storing a first set of speaker-independent word models used to match a word in an utterance
of any user with a word model in said first set, said first set of word models including models for
each of a plurality of words;
storing a second set of speaker dependent word models derived from speech of a particular
user, said second set of word models including models for at least some of said plurality of words;
and
recognizing words in utterances of said particular user by attempting to match portions of an
audio signal with:
word models among said first set; and
word models among said second set.

2 3. (amended) A method of operating a speech recognition system comprising:

3 storing a first set of speaker-independent word models used to match a word in an utterance

4 of any user with a word model in said first set;

5 storing a second set of speaker dependent word models derived from speech of a particular

6 user by:

7 inviting said particular user upon first use of said speech recognition system to speak

8 training words for deriving said second set;

9 deriving said second set from said training words; and

10 storing said second set; and

11 recognizing words in utterances of said particular user by attempting to match portions of an

12 audio signal with:

13 word models among said first set; and

word models among said second set.

1 4. (unchanged) The method according to claim 2 further comprising:

2 inviting said particular user to speak training utterances of a word upon a predetermined

3 number of failures to recognize said word using said first set of word models;

4 deriving a word model from said training utterances; and

5 storing said word model from said training utterances, in said second set.

5. (amended) A method of operating a speech recognition system comprising:

storing a first set of speaker-independent word models used to match a word in an utterance

of any user with a word model in said first set;

storing a second set of speaker dependent word models derived from speech of a particular

user by:

determining a likelihood of recognizing a spoken word using said first set;

deriving a word model from a spoken word marginally recognized using said first set;

storing said word model in said second set; and

recognizing words in utterances of said particular user by attempting to match portions of an

audio signal with:

word models among said first set; and

word models among said second set.

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6. (amended) A method of enhancing speech recognition comprising:

providing a set of user-independent word models derived from utterances of a plurality of

speakers, said first set of word models including models for each of a plurality of words;

providing a set of user-dependent word models for ones of a plurality of users each derived

from utterances of one of said users, said second set of word models including models for at least

some of said plurality of words;

matching an utterance from one of said users to one of said user-independent word models;

and

matching another utterance from said one of said users to one of said user-dependent word

models.

7. (amended) A method of enhancing speech recognition comprising:

2 providing a set of user-independent word models derived from utterances of a plurality of

3 speakers;

4 providing a set of user-dependent word models for ones of a plurality of users each derived

5 from utterances of one of said users by:

6 inviting a new user to speak training words for deriving a set of user-dependent word

7 models;

8 deriving said set of user-dependent models from said training words; and

9 storing said set of user-dependent word models;

10 matching an utterance from one of said users to one of said user-independent word models;

11 and

12 matching an other utterance from said one of said users to one of said user-dependent word

13 models.

1 8. (amended) The method according to claim 7 further comprising:
2 inviting said new user to speak training utterances of a word upon a predetermined number
3 of failures to identify said word among said user-independent word models when no model for said
4 word is present in said user-dependent models;
5 deriving a word model from said training utterances; and
6 storing the derived word model in said set of user-dependent word models.

1 9. (unchanged) The method according to claim 8 wherein said user-dependent word models are
2 stored in a separate memory location from said user-independent word models.

1 10. (amended) A method of operating a speech recognition system, comprising:
2 storing a first set of recognition models for recognizing speech independent of an identity
3 of a user, said first set of recognition models for recognizing a plurality of system commands;
4 storing a second set of recognition models for recognizing speech of a particular user, at least
5 one model of said second set for initiating performance of at least one of said plurality of system
6 commands, so that at least one of said system commands may be performed in response to a
7 recognized user chosen utterance.

1 11. (unchanged) The method of claim 10, wherein a single utterance corresponding to one of said
2 second set of models may correspond to a plurality of sequentially performed system commands.

1 12. (unchanged) The method of claim 10, further comprising:
2 comparing each model of said second set of recognition models to each of said first set of
3 recognition models and other ones of said second set, to ensure that speech recognized using each
4 model in said second set will not be mistakenly recognized using any model in said first set, or other
5 models in said second set, prior to storing said each model.

1 13. (amended) A voice messaging system, comprising a speech recognition system for controlling
2 operation of said voice messaging system, said speech recognition system comprising:

3 a memory storing:

4 a first set of word models for recognizing speech independent of an identity of a user,
5 A4 said first set of word models for recognizing a plurality of system commands controlling
6 operation of said voice messaging system; and

7 a second set of models for recognizing speech of a particular user, at least one model
8 of said second set for initiating performance of at least one of said plurality of system
9 commands, so that at least one of said system commands may be performed in response to
10 a recognized user chosen word.

1 14. (amended) The voice messaging system of claim 13, wherein said memory further contains
2 computer executable instructions adapting said system to record utterances by said particular user
3 to form said second set, and to collect indicators of system commands to be associated with each
4 model in said second set.

1 15. (unchanged) The voice messaging system of claim 14, wherein said memory further stores
2 computer executable instructions adapting said system to prompt a user to record utterances in place
3 of system commands.

1 16. (unchanged) The voice messaging system of claim 14, wherein said memory further contains
2 computer executable instructions adapting said system to ensure that speech recognized with each
3 model in said second set will not likely be recognized with any model in said first set or other models
4 in said second set, prior to storing said each model in said second set.

1 17. (unchanged) The voice messaging system of claim 16, wherein at least one model in said second
2 set initiates performance of more than one or said plurality of system commands.

1 18. (amended) A computer readable medium, storing:

2 a first set of recognition models for recognizing speech independent of an identity of a user

3 at a speech recognition system, at least some of said models in said first set for recognizing a

4 AS plurality of system commands; and

5 computer executable instructions, that when executed at said speech recognition system,

6 adapt said speech recognition system to form and store a second set of models, for recognizing

7 speech of a particular user, with at least one model of said second set for initiating performance of

8 at least one of said plurality of system commands. so that at least one of said system commands may

9 be performed in response to a recognized word chosen by said particular user.

1 19. (unchanged) The computer readable medium of claim 18, further storing computer executable

2 instructions adapting said system to record utterances by said particular user to form said second set

3 of models, and to associate at least one system command with each model in said second set of

4 models.

1 20. (unchanged) The computer readable medium of claim 19, further storing computer executable

2 instructions adapting said system to prompt a user to record utterances in place of system commands.

1 21. (unchanged) The computer readable medium of claim 18, further storing computer executable
2 instructions adapting said system to ensure that speech recognized using each model of said second
3 st will not be mistakenly recognized with any one model in said first set of recognition models, or
4 other models in said second set of models, prior to storing said each of said models in said second
5 set.